

CLAIMS

1. An apparatus comprising:

a first circuit configured to generate a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture; and

5 a second circuit configured to select between said first reference picture and a second reference picture as a better reference picture for motion estimation in response to said control signal.

2. The apparatus according to claim 1, wherein:

a parity of said first reference picture is opposite to a parity of said current picture; and

a parity of said second reference picture is the same as
5 said parity of said current picture.

3. The apparatus according to claim 1, wherein:

a parity of said first reference picture is the same as a parity of said current picture; and

a parity of said second reference picture is opposite to
5 said parity of said current picture.

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4. The apparatus according to claim 1, further comprising:

a memory configured to store said current picture, said first reference picture and said second reference picture.

5. The apparatus according to claim 1, wherein said second circuit further comprises:

a multiplexer circuit configured to select between said first reference picture and said second reference picture.

6. The apparatus according to claim 1, further comprising:

a motion estimation circuit configured to generate one or more motion vectors in response to said better reference picture and said current picture.

7. The apparatus according to claim 1, wherein said first circuit further comprises:

a circuit configured to generate a plurality of coarse motion vectors for said current picture based upon said first reference picture.

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8. The apparatus according to claim 7, wherein said first circuit further comprises:

a first analysis circuit configured to generate a measurement of inter-picture motion in response to said coarse motion vectors.

9. The apparatus according to claim 8, wherein said first circuit further comprises:

a second analysis circuit configured to generate said control signal in response to said measurement of inter-picture motion.

10. The apparatus according to claim 8, wherein:
said first analysis circuit is configured to perform a cluster analysis on said coarse motion vectors.

11. The apparatus according to claim 1, wherein said apparatus is part of an encoder circuit.

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12. An apparatus comprising:

means for generating a control signal in response to a measurement of inter-picture motion between a current picture and a first reference picture; and

5 means for selecting a better reference picture for motion estimation from said first reference picture and a second reference picture in response to said control signal.

13. A method for performing motion estimation in a video encoder comprising the steps of:

generating a control signal in response to a measurement of inter-picture motion between a current picture and a first
5 reference picture; and

selecting a better reference picture for motion estimation from said first reference picture and a second reference picture in response to said control signal.

14. The method according to claim 13, wherein:

a parity of said first reference picture is opposite to a parity of said current picture; and

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a parity of said second reference picture is the same as
5 said parity of said current picture.

15. The method according to claim 13, wherein:

a parity of said first reference picture is the same as
a parity of said current picture; and

a parity of said second reference picture is opposite to
5 said parity of said current picture.

16. The method according to claim 13, further comprising
the step of:

storing said current picture, said first reference
picture and said second reference picture in a picture memory.

17. The method according to claim 13, further comprising
the step of:

generating one or more motion vectors in response to said
better reference picture and said current picture.

18. The method according to claim 13, further comprising
the step of:

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generating a plurality of coarse motion vectors for said current picture based upon said first reference picture.

19. The method according to claim 18, further comprising the step of:

generating a measurement of inter-picture motion in response to said coarse motion vectors.

20. The method according to claim 19, further comprising the step of:

generating said control signal in response to said measurement of inter-picture motion.

21. The method according to claim 19, further comprising:

performing a cluster analysis on said coarse motion vectors.

22. The method according to claim 13, wherein said current picture, said first reference picture and said second reference picture each comprise a field picture.